

What is claimed is:

1 1. A light emitting apparatus, comprising:
2 a light source section comprising a solid-state light
3 emitting element;
4 a power supply section that supplies power to the light
5 source section;
6 a reflection section that is disposed opposite to a light
7 extraction surface of the light source section to reflect light
8 emitted from the light source section; and
9 a heat radiation section that is disposed with a heat
10 radiation width in a back direction of the light source section.

1 2. A light emitting apparatus, comprising:
2 a light source section comprising a solid-state light
3 emitting element;
4 a power supply section that supplies power to the light
5 source section;
6 a reflection section that is disposed opposite to a light
7 extraction surface of the light source section to reflect light
8 emitted from the light source section;
9 a heat radiation section that is disposed with a heat
10 radiation width in a back direction of the light source section;
11 and
12 a case in which the reflection section and the radiation
13 section are placed and which externally radiates heat to be
14 transferred from the heat radiation section.

1 3. The light emitting apparatus according to claim 2,

2 wherein:

3 the heat radiation section is of the same material as the
4 case.

1 4. The light emitting apparatus according to claim 1 or
2 2, wherein:

3 the light source section is packaged such that the
4 solid-state light emitting element is sealed with a light
5 transmitting material.

1 5. The light emitting apparatus according to any one of
2 claims 1 to 4, wherein:

3 the light source section comprises the solid-state light
4 emitting element that is flip-chip mounted on a inorganic
5 material board on which a conductive pattern is formed to supply
6 power to the solid-state light emitting element, and the light
7 source section is sealed with an inorganic seal material that
8 has a thermal expansion coefficient nearly equal to that of the
9 inorganic material board.

1 6. The light emitting apparatus according to claim 5,
2 wherein:

3 the inorganic seal material is of glass.

1 7. The light emitting apparatus according to claim 5 or
2 6, wherein:

3 the inorganic material board seals the light emitting
4 element while bonding in chemical reaction to the inorganic seal
5 material.

1 8. The light emitting apparatus according to any one of
2 claims 1 to 7, wherein:

3 the solid-state light emitting element is sealed with the
4 inorganic seal material with a refractive index of 1.55 or more.

1 9. The light emitting apparatus according to claim 2 or
2 3, wherein:

3 the case comprises a high reflectivity surface to reflect
4 the light.

1 10. The light emitting apparatus according to claim 2 or
2 3, wherein:

3 the case comprises a surface that is subjected to a
4 finishing to increase its heat radiation area.

1 11. The light emitting apparatus according to any one of
2 claims 1 to 10, wherein:

3 the heat radiation section comprises a heat radiation
4 plate that comprises a high reflectivity surface to reflect the
5 light.

1 12. The light emitting apparatus according to any one of
2 claims 1 to 11, wherein:

3 the heat radiation section comprises a heat radiation
4 support that is of a high thermal conductivity material and
5 transfers to the heat radiation section heat generated from the
6 light source section, and a heat radiation plate that transfers
7 the heat through the heat radiation support.

1 13. A light emitting apparatus, comprising:
2 a light source section comprising a solid-state light
3 emitting element;
4 a power supply section that supplies power to the light
5 source section;
6 a reflection section that is disposed opposite to a light
7 extraction surface of the light source section to reflect light
8 emitted from the light source section; and
9 a heat radiation section that is disposed with a heat
10 radiation width in a back direction of the light source section,
11 wherein the power supply section is formed with a width
12 in the back direction of the light source section.

1 14. The light emitting apparatus according to any one of
2 claims 1 to 13, wherein:
3 the power supply section comprises a metallic thin film
4 and is disposed with a width in the back direction of the light
5 source section and is integrated with the heat radiation section
6 while being insulated from the heat radiation section.

1 15. The light emitting apparatus according to claim 14,
2 wherein:

3 the power supply section comprises a metallic thin film
4 and is sandwiched through an insulator between a plurality of
5 heat radiation plates to compose the heat radiation section.

1 16. The light emitting apparatus according to any one of
2 claims 1 to 15, wherein:

3 a spectrum light with plurality of region wavelengths is
4 radiated from the solid-state light emitting element or from
5 the periphery of the solid-state light emitting element.

1 17. The light emitting apparatus according to claim 16,
2 wherein:

3 a phosphor is disposed on the periphery of the solid-state
4 light emitting element.

1 18. The light emitting apparatus according to any one of
2 claims 1 to 17, wherein:

3 the heat radiation section has the heat radiation width
4 that is three times or more its thickness.

1 19. The light emitting apparatus according to any one of
2 claims 1 to 18, wherein:

3 the light source section including the solid-state light
4 emitting element has a width that is within five times that of
5 the solid-state light emitting element.

1 20. The light emitting apparatus according to any one of
2 claims 1 to 18, wherein:

3 the heat radiation section comprises a shape that
4 protrudes toward a bottom of the reflection surface.

1 21. The light emitting apparatus according to any one of
2 claims 1 to 20, wherein:

3 the reflection surface opposite to the light source
4 section comprises a solid angle of 2π to 3.4π strad.

1 22. The light emitting apparatus according to any one of
2 claims 1 to 21, wherein:

3 the light source section comprises a light source with
4 a turn-on power of 1W or more.

1 23. The light emitting apparatus according to any one of
2 claims 1 to 13, wherein:

3 the reflection section is of a resin material.

1 24. The light emitting apparatus according to any one of
2 claims 1 to 22, wherein:

3 the light source section comprises a plurality of
4 solid-state light emitting elements.

1 25. The light emitting apparatus according to any one of
2 claims 1 to 24, wherein:

3 the light emitting apparatus comprises a plurality of the
4 light source sections, and a plurality of the reflection sections
5 and the heat radiation sections corresponding to the plurality
6 of the light source sections.

1 26. The light emitting apparatus according to claim 25,
2 wherein:

3 the plurality of the light source sections generate a
4 plurality of emission colors.

1 27. The light emitting apparatus according to claim 26,
2 wherein:

3 the plurality of the light source sections generate
4 emission colors of R, G and B.